Computing at home: How are you doing ?
What are the most pressing problems ?

● Listen to talks trying to find the answers, then ask questions

● INTRODUCTION (Stefano Belforte)   5min
● SAM   (Rick St.Denis)   15min
  ➢ Is that what we want (open discussion)   20min
● GRID POLITICS   (Frank Wuerthwein)   10min

● Can not make exahustive discussion here, nor can listen to everybody, nor claim to have the full feedback now

● At least make sure everybody knows what is happening

● Provide some immediate feedback now, but mostly in the following days/weeks (e.g. via e-mail to ICRB) to offline/DH leaders to help them finalize SAM specs and prioritities

● I will be glad to collate feedbacks in a coherent frame

Computing at home: the scenery

- ● CDF has as much CPU/disk as money can buy (and people manage)
  - ➢ CAF: more then x10 the computing we thought 2 years ago
  - ➢ Two telltale signals:
    - ☞ 30% of FNAL CAF is non-FNAL-owned
    - ☞ dCAFs sprouting all around
  - ➢ Interpretation: time to expand offsite
- ● Next frontier software: SAM + GRID (JIM)
  - ➢ SAM: transparent access to FNAL data from everywhere
    - ☞ AND data import to FNAL store (offsite MC)
  - ➢ GRID : merge with "LHC", solve Authorization w/o Kerberos5
- ● Once remote computing is technically feasible.. Politcs :
  - ➢ Is it needed ? Or simply welcome ?
  - ➢ Is it a contribution ? Or a cost ?

# Besides software the network !!

Kindly got 2 slides from Phil Demar

(CD networking group)

Current Status: FNAL WAN Capabilities

➤ Off-Site network link currently = 622Mb/s (OC12):

  ☞ Link provided by ESnet (DOE network for the National Labs)

  ☞ ESnet link upgraded from 155Mb/s (OC3) in December, 2002

  ☞ Dependent on DOE approval & funding for next upgrade (2.4 Gb/s)

  ☞ Unclear when that upgrade may occur

  ☞ Second off-site OC3 (MREN link) now only used for redundancy

➤ Outbound traffic (blue line) increased 200% in 2002:

  ☞ Daily outbound peaks (magenta line) > 200 Mb/s
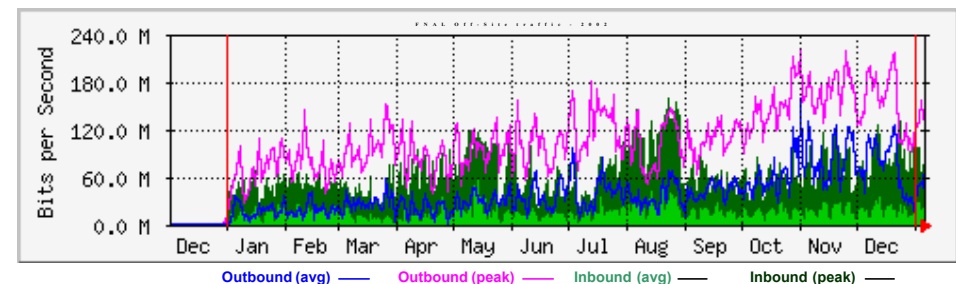
➤ Last week's outbound traffic breakdown (by experiment)
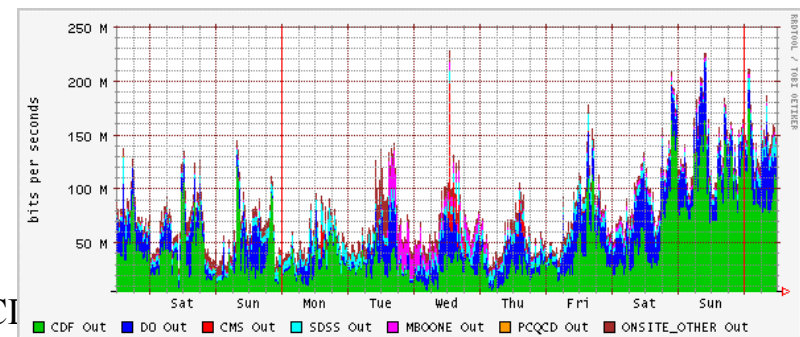
Plans for StarLight Dark Fiber

➢ FNAL working on procuring dark fiber to StarLight:
  - ☞StarLight = International optical network exchange pt. in Chicago
  - ☞Many US & International research networks connect to StarLight
  - ☞StarLight dark fiber procurement (hopefully…) completed in this FY

➢ Dark fiber offers potential for very high, scalable bandwidth
  - ☞Bandwidth limited only by optical (DWDM) equipment supporting it
  - ☞Initial DWDM configuration likely to be one or two 2.4 Gb/s ?'s
  - ☞Additional ?'s could be added with additional DWDM modules

➢ ESnet link to remain FNAL's production network path
  - ☞Will pursue ESnet link upgrades as WAN loads increase
  - ☞Starlight Project's purpose is WAN system / network research
  - ☞StarLight link could be used for excess (overflow) production traffic
  - ☞StarLight link could also support new, next generation applications requiring higher bandwidth than ESnet provides